

California Earthquake & Tsunami Communications and Outreach Plan

May 2010



Fostering a culture of earthquake and tsunami readiness in California



Convened by the California Emergency Management Agency (Cal EMA), this document was developed by a workgroup of representatives from earthquake/tsunami readiness agencies, local organizations, the social sciences, schools, and the media. The project's aim was to develop an earthquake and tsunami communications strategy and a framework designed to promote synchronizing California's earthquake and tsunami readiness public outreach efforts. This document was prepared under a grant from FEMA's Grant Program Directorate, U.S. Department of Homeland Security. Points of view or opinions expressed in this document are those of the authors and do not necessarily represent the official position or policies of FEMA's Grant Programs.

Submitted to the California Emergency Management Agency by



CONTENTS

1. EXECUTIVE SUMMARY.....	1
1. Background.....	1
2. Recommendations.....	3
3. Relationship to other Efforts.....	4
4. Relationship to other Plans.....	4
5. Working Group Member Organizations.....	4
2. SITUATION ANALYSIS.....	5
1. What Science Tells Us About the Efficacy of Existing Efforts.....	5
2. Past and Current Program Experiences.....	6
3. Current Coordination of Efforts.....	8
3. VISION, MISSION AND GOALS.....	9
1. Vision.....	9
2. Mission.....	9
3. Goals.....	9
4. OUTREACH PLAN.....	10
1. Workgroup Recommendations.....	10
2. Plan Function.....	10
3. Major Initiatives Identified for Initial Coordination.....	12
4. Plan Strategies, Objectives and Tasks.....	13
5. PHASE I: SUPPORT AND BUILD THE ALLIANCE.....	18
1. Key Target Audiences.....	18
2. Outreach Tools and Strategy.....	19
3. Alliance Structure and Communications.....	20
6. PHASE II: OUTREACH TO TARGET PUBLIC AUDIENCES.....	21
1. Outreach Tools and Activities.....	21
2. Building the Earthquake/Tsunami-Ready Community.....	23
3. Correcting Earthquake Response Myths.....	24
4. Key Target Audiences.....	25
5. Messaging.....	26
6. Enabling Campaign Messengers.....	28
7. PHASE III: EXPANDING OUTREACH TO OTHER PUBLIC AUDIENCES.....	30

1. Connecting With Unengaged Groups	30
2. Identifying Unengaged Groups	31
3. Desired Outcome of Phase III Efforts.....	32
8. EVALUATION.....	33
9. PLAN UPDATES	34
APPENDIX A: PROCESS AND PARTICIPANTS	36
1. Acknowledgements: 2009 Workgroup Participants	37
APPENDIX B: EARTHQUAKE AND TSUNAMI READINESS OUTREACH EFFORTS	39
APPENDIX C: RESEARCH SUMMARY	44
APPENDIX D: CROSSWALK.....	51
APPENDIX E: ACRONYMS AND ABBREVIATIONS.....	52

1. EXECUTIVE SUMMARY

1. Background

Spurred by the collaborative success of the 2008 Great Southern California ShakeOut and other regional collaborative earthquake and tsunami education initiatives, the California Emergency Management Agency (Cal EMA) convened a workgroup of representatives from earthquake/tsunami readiness agencies, local organizations, the social sciences, schools, and the media to develop an earthquake and tsunami communications strategy and a framework designed to promote synchronizing California's earthquake and tsunami readiness public outreach efforts and to support the effectiveness of such initiatives.

The timing of this effort was ideal. Not only were the agencies and organizations coming out of successful regional collaborative efforts, but efforts were already underway toward developing a statewide alliance of earthquake and tsunami readiness organizations and groups. The conditions and mindset among representatives of the agencies and organizations involved in alliance activities were well suited for engaging in the development of this communications plan. Additionally, a milestone public earthquake readiness research study has been completed. This Cal EMA-funded study provides baseline public preparedness data for evaluating the State's progress toward increasing public earthquake readiness.

This workgroup set out to develop a communications strategy that will help develop consistent messages, identify communication and outreach approaches and tactics, coordinate efforts, and guide communications initiatives over the next five years. Although focused on earthquake and tsunami, the results of such an effort is also intended to support all-hazard preparedness. The workgroup decided to base its central decisions, recommendations and strategies on the social science evidence, while simultaneously implementing innovative communications techniques, particularly in the social media arena. The social science evidence concludes that the factors central to motivating the public to get ready for disasters such as earthquakes and tsunamis include:

- **Consistent Messaging:** Audiences need to receive consistent messaging from various sources that provide preparedness information regarding what actions to take, how to reduce losses and where to find more information. This information needs to be presented in as many ways as possible through multiple mediums in an ongoing, continuous manner.

- **Physical Cues:** Audiences are more likely to take action if they see physical/visual cues from others, such as friends securing bookcases to walls, government offices retrofitted for earthquakes, or family members stocking supplies of water and preparing earthquake kits.

To take advantage of the social science evidence and implement programs based on consistent messaging and physical cues, the workgroup determined that the first benefit of the Plan would be to facilitate collaboration among stakeholders as Plan users; guiding them through the initial stages of working together as an *alliance*, while broadly sketching out strategies for reaching target audiences so specific tactics would be tailored to meet future needs. The resulting plan is organized in a series of three phases:

- **Phase I:** The first phase concentrates efforts on reaching out to other earthquake/tsunami education organizations and government agencies as a means of recruiting them to join the alliance. This provides a platform for coordinating efforts and sharing capabilities. This phase also uses the collaborative efforts that supported the ShakeOut 09 statewide earthquake drill as a pilot project for developing this coordination.
- **Phase II:** The second phase takes an innovative approach to earthquake/tsunami readiness education. These efforts target individuals who have already demonstrated an interest in earthquake/tsunami readiness, such as participants in the ShakeOut drill and other events and exercises. This phase fosters a community of individuals with an interest in readiness. The alliance supports these individuals/groups so that during their efforts to “virally” expand this community as they talk to their peers, share messages/information, and provide visual cues to others. This approach is designed to be effective at an online as well as a grassroots, local and statewide level, and is scalable to meet any effort. Alliance members also coordinate delivery of consistent messages to audiences and media. A rapid-response team is created to opportunistically reach out to the media following an earthquake/tsunami to remind/educate people about what to do before, during, and after an earthquake/tsunami. It is also a good opportunity to correct the many earthquake myths that exist, including the triangle of life, run outside for safety, or stand under the doorway.
- **Phase III:** The third phase takes a step back to analyze how the community of earthquake-ready Californians has grown and to identify whether any groups have been left out of this movement. The alliance targets those groups directly rather than going through the targeted groups identified in Phase II to help make them part of the larger community.

This Plan is designed to provide a basic structure for collaboration, not to impose an operational or work plan on members of the alliance group. It is not intended to set up a reporting structure to hold participating agencies accountable. This Plan is meant to set the direction of the group and to establish larger overarching goals. It is the basis for future collaboration in both operational and work planning efforts and begins the process of knitting existing programs together to achieve greater efficiencies and effectiveness. The purpose of this workgroup is to ensure that a wide variety of alliance members are involved in the development of the alliance's operational plan to maximize the buy-in and ownership of the specific objectives.

The Earthquake Country Alliance

The workgroup's recognition of the importance of the unification of stakeholders was timed perfectly to take advantage of discussions by regional earthquake stakeholder coalitions, government agencies, and advocates. The common interest in the development of the statewide alliance and the implementation of statewide initiatives resulted in the creation of a statewide alliance, the Earthquake Country Alliance (ECA). The groups already interested in ECA were critical stakeholders in the development of the communication strategy. Since an alliance, such as ECA, would ultimately implement the strategies outlined in this Plan, representatives from the four regional coalitions that initially made up the ECA became an integral part of the workgroup and were actively engaged throughout the process. The four regional ECA coalitions include the Southern California Earthquake Alliance, Bay Area Earthquake Alliance, and the Redwood Coast Tsunami Work Group.

Taking advantage of the synergy between this workgroup's efforts and the nascent Earthquake Country Alliance, the members of the workgroup that developed this Plan will also be participants in the Earthquake Country Alliance and the ECA will be the provisional alliance discussed in this Plan.

2. Recommendations

The workgroup agreed on the following recommendations:

- Build and maintain an alliance of earthquake and tsunami readiness advocates, agencies and organizations in California to foster coordination and collaboration of communications efforts, including pooling resources and using consistent messaging among alliance member agencies and grassroots organizations at the state and local levels.
- Determine and promote consistent conceptual messaging that will foster a culture of readiness and self-reliance among Californians.
- Develop coalition strategies that are informed by current social science research in earthquake and tsunami readiness and on innovative communications techniques and best practices.

- Build and maintain a community of individuals and groups that have previously engaged in earthquake/tsunami readiness activities and empower those “community members” to reach out to others.
- Identify and reach out to those who are not engaged in activities, but are receptive to earthquake/tsunami readiness messaging with the goal of engaging them in the community by taking part in earthquake/tsunami readiness activities.
- Promote use of this Plan as a guide for agencies and organizations across California as a means of implementing the above recommendations to improve the efficacy of earthquake readiness outreach in California.

3. Relationship to other Efforts

Other collaborative efforts, primarily the California Volunteers-led California Readiness Advisory Group (CRAG), were also underway during the development of this Plan. While the CRAG plan addresses all hazards and this Plan focuses on earthquakes and tsunamis, both groups collaborated closely to ensure that the two plans were consistent and complementary. Members of the CRAG were also part of this Plan’s workgroup.

4. Relationship to other Plans

Appendix D: *Plan Crosswalk*, provides information on this Plan’s relationship to the State’s multi-hazard plans, including the State Emergency Plan, State Hazard Mitigation Plan, and the California Community Readiness Plan.

5. Working Group Member Organizations

Working group participants included representatives from stakeholders across the state, including:

American Red Cross - Greater Long Beach Chapter, California Emergency Management Agency, American Red Cross - Greater Long Beach Chapter, California Earthquake Authority, California Geological Survey, California Seismic Safety Commission, California Volunteers, City and County of San Francisco Department of Emergency Management, County of San Diego Office of Emergency Services, KDTV Univision 14 – KFSF TeleFutura 66, Riverside County Office of Education, San Bernardino County Office of Emergency Services, United States Geological Survey, Redwood Coast Tsunami Work Group, Humboldt State University, National Oceanic and Atmospheric Administration (NOAA), National Weather Service, and Bay Area Earthquake Alliance. The Federal Emergency Management Agency - Region IX, participated in the group as an advisor. (*See Appendix A: Process and Participants for a list of participants representing each member organization.*)

2. SITUATION ANALYSIS

Over the past three decades, scientists have made significant strides in understanding earthquakes. Collaborative efforts among a wide range of stakeholders have yielded insight into earthquakes' impacts on structures. From those efforts, mitigation strategies, which are supported by state law, were developed to design structures to survive strong shaking. However, translating this knowledge into public action is still a huge challenge. Earthquakes still pose a major catastrophic threat to California. According to the April 2008 Uniform California Earthquake Rupture Forecast (UCERF), a study comparing the probability of earthquakes of varying magnitudes in different parts of California, the State has a greater than 99 percent chance of experiencing an earthquake with a magnitude of 6.7 or larger within the next 30 years.

Despite the high probability of earthquakes, recent research has shown that Californians' levels of readiness for earthquakes are not proportionate to the high risks involved. Research also shows that providing the public with education and information from multiple sources through a variety of communications channels will motivate people to take action to become prepared for disaster. Government agencies and nongovernmental organizations throughout California have been using the insights of social scientists and marketing experts to develop effective ways to educate the public about how to prepare for an earthquake. This research has demonstrated the critical importance of coordinating these efforts on a statewide basis.

1. What Science Tells Us About the Efficacy of Existing Efforts

A number of published studies have examined the factors that motivate people to actively prepare for disaster. These studies found two primary factors were involved. First, for effective delivery, messages must be consistent about what actions to take and how those actions will reduce earthquake losses. This information must come from multiple sources, including state and local agencies and private/nongovernmental organizations; through multiple communications channels/media sources, such as television, Internet, and word-of-mouth; and on a regular basis over the long term. Secondly, these studies found that the public's tendency to take action to become prepared is influenced by cues, which are both physical and social in nature. Physical cues include seeing others take preparedness and mitigation action and seeing the results of their actions. Social cues, or social milling, include talking with others about preparedness and mitigation. Two additional important conclusions of this research are that perceived risk and demographics are not significant factors in getting people to actively prepare themselves for disaster.

The UCLA School of Public Health survey, “The State of Household Readiness for Earthquakes in California and How to Increase It” provides base-line data for measuring future progress related to increasing public preparedness.

2. Past and Current Program Experiences

California has a 30-year-long history of initiatives, including earthquake- and/or tsunami-specific and multi-hazard initiatives, promoting the importance of disaster readiness/preparedness to the public.

From 1980 through 1992, the state’s Southern California Earthquake Preparedness Project (SCEPP) and the Bay Area Earthquake Preparedness Project (BAREPP) actively promoted both governmental and public earthquake preparedness. From 1985 to 2003, the Governor’s Office of Emergency Services’ (OES) designated April as the State’s Earthquake Preparedness Month to encourage agencies and organizations across the state to concentrate their outreach efforts during April and to coordinate messages regarding the need for earthquake readiness. (Note: Effective January 1, 2009, OES and the Office of Homeland Security (OHS) were merged into a single agency called the California Emergency Management Agency (CalEMA).

In 2003, OES shifted its resources to focus on an all-hazards campaign (Be Smart, Be Responsible, Be Prepared, Get Ready), which replaced the statewide Earthquake Preparedness Month campaign. However, a number of local jurisdictions still continue to observe April as Earthquake Preparedness Month.

Earthquake and Tsunami Readiness Outreach Efforts

- 1868 Hayward Earthquake Alliance
- 1906 Earthquake Centennial Alliance
- American Red Cross
- California Volunteers
- Earthquake Preparedness Month
- Emergency Survival Program
- Great Southern California ShakeOut
- Humboldt Earthquake Education Center
- Live-Code Tsunami Test
- Putting Down Roots in Earthquake Country and related products
- Redwood Coast Tsunami Work Group
- San Diego County Office of Emergency Services
- Southern California Earthquake Alliance
- Bay Area Earthquake Alliance
- Tsunami Preparedness Week
- TsunamiReady
- U.S. Geological Survey
- WE Prepare

For more information, see Appendix B: *Earthquake & Tsunami Readiness Outreach Efforts*.

The majority of these different initiatives target specific audiences and/or promote specific tools for earthquake/tsunami readiness. For example, efforts can be geographically-based (Southern California Earthquake Alliance and Redwood Coast Tsunami Work Group), instruction-based (mitigation and earthquake kits), disaster-based (tsunami, floods, wildfires), and/or population-based (older adults and non-English speakers). Due to budget and resource constraints, many of these efforts are one-time or periodic (annual) events rather than ongoing campaigns. Since many of these initiatives were implemented independently of each other, there were inconsistencies among instructional messages which negatively affect the overall effectiveness.

Many of these initiatives have taken innovative approaches to reach out to their target audiences. Some of these include:

- **WE Prepare:** In 2006, CaliforniaVolunteers was charged by the governor to coordinate volunteer activities related to disaster response and recovery. One innovative approach this agency has taken as part of its WE Prepare program is to reach out to key family decision-makers – mothers – is through its “mommy blogger” campaign. This campaign identifies mommy bloggers and meets with them in person to discuss earthquake readiness issues and what mothers can do to protect their families. These mothers then share what they have learned with other moms through their blogs.
- **Great Southern California ShakeOut:** At 10 a.m. on November 13, 2008, millions of southern Californians participated in this massive earthquake drill to practice what to do during and after a major earthquake. Individuals, families, businesses, schools, and organizations joined firefighters and other emergency responders who were involved in the statewide “Golden Guardian” exercise the same week, in the United States’ largest-ever earthquake preparedness activity. The ShakeOut drill was innovative in its use of a collaborative model to centralize information, register participants, and organize leadership from many organizations under the common banner of The Earthquake Country Alliance (ECA).
- **Great California ShakeOut:** The success of the Southern California Earthquake Country Alliance’s collaboration has resulted in its expansion into a statewide organization, which includes regional stakeholder alliances in Southern California, the Central Coast, Bay Area, and North Coast. The statewide ECA, in concert with state agencies, executed the ShakeOut 2009 drill as a statewide event that was so successful it will now be held annually.

For a more comprehensive listing of earthquake readiness outreach efforts across the state, see Appendix B: *Earthquake And Tsunami Readiness Outreach Efforts*.

3. Current Coordination of Efforts

In recognition of the social science-based evidence that supports the effectiveness of widely coordinated efforts, California agencies and organizations have begun to work collaboratively on joint initiatives. Regional earthquake readiness handbooks (*Putting Down Roots in Earthquake Country*, *Living on Shaky Ground*) are examples of publications developed as part of a collaborative effort among nonprofit, business, government and education partners. In addition, earthquake preparedness campaigns commemorating the 1906 San Francisco Earthquake Anniversary and the 2007 Hayward Anniversary were organized by regional stakeholder groups, although these groups were ad-hoc to the specific event.

In organizing the Great Southern California ShakeOut in 2008, and the statewide Great California ShakeOut in 2009, the Earthquake Country Alliance represented the innovative partnership envisioned by this workgroup. The workgroup was organized in part to help create and coordinate planning for an alliance. ECA is such an alliance; members include leading earthquake professionals, emergency managers, government officials, business and community leaders, social scientists, and others that provide earthquake information and services. The workgroup agrees that this confederation of alliances is the appropriate group to begin implementation of the strategies and tactics contained in this Plan.

3. VISION, MISSION AND GOALS

1. Vision

The “vision” for this Plan, or the ultimate outcome it seeks to achieve, includes the following:

- Before an earthquake or tsunami:
 - Californians take active steps to ready themselves, their families, their businesses, and their communities for earthquakes.
 - Californians perpetuate a self-sustaining **culture of readiness** by sharing their readiness activities with one another.
- During an earthquake or tsunami:
 - Californians take appropriate action to minimize disaster-associated injuries, loss of life, and property damage.
- After an earthquake or tsunami:
 - Californians survive, recover and thrive.

2. Mission

The “mission” of this Plan is:

To foster a culture of earthquake and tsunami readiness in California.

3. Goals

The “goals” of this Plan are to:

- Further develop the awareness of, engagement in, and support for the Plan and a stakeholder alliance among internal audiences.
- Cultivate collaboration among stakeholder alliance members.
- Build and maintain a community of earthquake/tsunami-ready Californians who, by demonstrating their readiness activities within their social circles, can help foster earthquake readiness as a social movement as well as all-hazard preparedness.
- Expand the community of earthquake/tsunami-ready Californians by reaching out to those who are not yet engaged in earthquake/tsunami readiness activities.

Specific plan strategies, objectives and tactics for achieving the Plan’s goals will be described in the following sections.

4. OUTREACH PLAN

1. Workgroup Recommendations

The multidisciplinary 2009 workgroup used an in-depth, collaborative planning process that leveraged research and best practices. From that planning process, the workgroup identified key recommendations to guide future earthquake readiness outreach initiatives in California.

Key Recommendations:

- Build and maintain an alliance of earthquake and tsunami readiness advocates, agencies, and organizations in California to foster coordination and collaboration of communications efforts, pooling of resources, and the use of consistent messaging among alliance member agencies and grassroots organizations at the state and local levels. Ensure inclusion of diverse groups, including language and disability.
- Determine and promote consistent conceptual messaging that will foster a culture of readiness and self-reliance among Californians.
- Develop coalition strategies that are informed by current social science research in earthquake and tsunami readiness and utilize innovative communications techniques and best practices.
- Build and maintain a community of individuals and groups that have engaged in earthquake/tsunami readiness activities and empower these “community members” to reach out to others.
- Reach out to those who are not engaged in readiness activities, but who are receptive to earthquake/tsunami readiness messaging, with the goal of engaging them in the community already taking part in earthquake readiness activities.
- Promote the use of this Plan as a guide for agencies and organizations across California as a means of implementing the above recommendations to improve efficacy of earthquake readiness outreach in California.

2. Plan Function

Research corroborates the use of a coordinated and long-term outreach effort that promotes consistent messaging from multiple agencies and organizations and disseminates it through multiple communications channels as the most effective way to drive Californians to prepare for a catastrophic earthquake.

This Plan describes the goals, strategies, objectives and tactics that are necessary for implementing these key recommendations.

The Plan has the two following functions:

- An internal function that provides for scoping and overall implementation strategy as well as an assessment strategy for developing the alliance of agencies and organizations
- An external function that supports the alliance's efforts by providing a coordinated communications strategy that targets public readiness.

This Plan does not recommend a reporting structure for the stakeholder alliance; however, it provides the framework for enabling individual agencies and organizations to collaborate and support each other. This Plan provides guidance and direction to the stakeholder alliance by addressing how they can create and sustain the stakeholder alliance and how to use the stakeholder alliance to support individual alliance members through coordinated efforts.

Figure 1 illustrates how the Plan will inform the efforts being taken by the stakeholder alliance and its member agencies and organizations. The Plan provides guidance that the stakeholder alliance and its members use in developing their internal alliance development activities and their external public outreach efforts. Feedback from stakeholder alliance members and the will be incorporated into the existing Plan to further the Plan as it is implemented.

Many jurisdictions and agencies have existing earthquake education events, campaigns, initiatives and programs in place. This Plan does not seek to recommend immediate changes to existing programs, but to create the opportunity for developing a coordinated “plan for existing programs” that would leverage successful readiness outreach efforts.

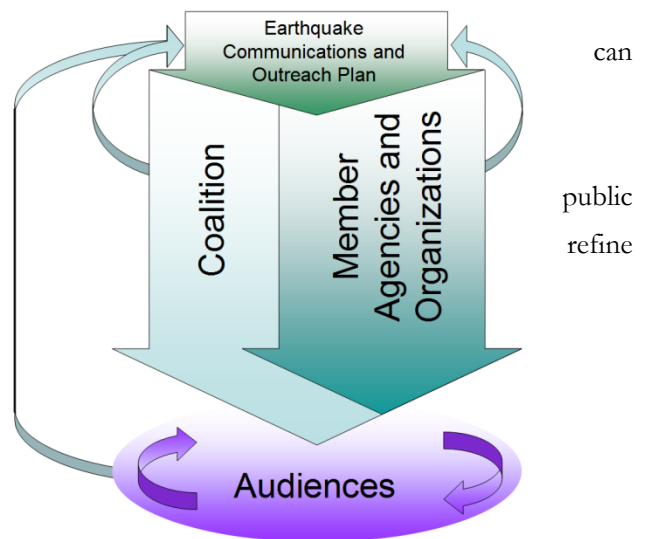


Figure 1. Plan Implementation

This Plan approaches implementation of the Plan's functions in a three-phased approach. Phase I emphasizes the preliminary development of the stakeholder alliance. Evolution of the stakeholder alliance is a significant part of all three phases. The primary focus of Phase II is outreach to the public and Phase III emphasizes

identifying and resolving gaps in public outreach efforts resulting from Phase I-II. These phases are discussed in further detail in Sections 6, 7 and 8 of the Plan.

3. Major Initiatives Identified for Initial Coordination

Although the first phase of this Plan concentrates on internal development strategies, the nascent stakeholder alliance and its member organizations, including state agencies, have identified existing opportunities to begin coordinating programs. The 2009 statewide Great California ShakeOut earthquake drill was the first joint project of the stakeholder alliance. The Shakeout drill provides not only the opportunity for reaching out to new stakeholder alliance partners, but also to pilot the alliance's intention to coordinate existing programs. For 2009, the participating stakeholder alliance and workgroup agencies and organizations identified these programs for coordination:

- The Great California ShakeOut 2009 (statewide)
- California Earthquake Authority Household Rebate Program (statewide)
- Loma Prieta 20th Anniversary (Bay Area)
- The Big Rumble (City and County of San Francisco)
- National Preparedness Month (statewide)
- CRAG California Readiness Plan for Disaster 2008-2010
- California Volunteers Recruitment Program
- Live Code Tsunami Tests 2010
- Tsunami Awareness and Preparedness Week

4. Plan Strategies, Objectives and Tasks

This provides an overview by Phase of the strategies, objectives and tasks recommended by the workgroup. Sections 5, 6, and 7 provide additional phase detail for alliance/user groups.

Phase I	
Goal I-1: Further develop awareness of, engagement in, and support for the Plan and alliance among internal audiences.	
Strategy I-1-1 Build a strong base of engaged alliance members and key senior leadership supporters.	Objective I-1-1a: Identify internal target audiences (potential new alliance members and key senior leadership supporters).
	Objective I-1-1b: Develop consistent messaging targeted to internal audiences.
	Objective I-1-1c: Educate, inform and promote the alliance and Plan to build membership among internal audiences. Tactic I-1-1c-1: Develop a toolkit of communications materials that includes a general briefing on the Plan and talking points based on messaging for each target audience. Tactic I-1-1c-2: Alliance members use the communications toolkit for outreach to their own contacts. Tactic I-1-1c-3: Convene a statewide meeting of earthquake/tsunami preparedness agencies and organizations to introduce this Plan to a larger audience of potential alliance members and key senior leadership supporters.
Goal I-2: Cultivate collaboration among alliance members	
Strategy I.2-1 Through existing workgroup members develop the supporting infrastructure for collaborative planning efforts for earthquake/tsunami readiness programs, activities and messages.	Objective I-2-1a: Formalize a meeting design and schedule to convene current 2009 workgroup partners as a part of the developing alliance.
	Objective I-2-1b: Develop information- and resource-sharing tools for coordination of collaborative efforts. Tactic I-2-1b-1: Develop a centralized matrix to identify and coordinate members' planned outreach efforts.

Phase I	
	Tactic I-2-1b-2: Develop an online social networking platform to enable real-time collaborative information-sharing.
Strategy I-2-2 Establish the alliance’s supporting infrastructure for the alliance’s collaborative planning efforts for Shakeout 2009 and ShakeOut 2010 planning.	Objective I-2-2a: Assemble an instructional messaging subcommittee to coordinate instructional messaging for ShakeOut.
	Objective I-2-2b: Assemble a collateral materials subcommittee to coordinate development and funding of statewide ShakeOut collateral materials.
	Objective I-2-2c: Update and refine the alliance’s structure and internal support mechanisms based on the alliance’s experience in ShakeOut 2009 and ShakeOut 2010 planning efforts.

Phase II	
Goal II-1: Continue to cultivate collaboration among alliance members	
Strategy II-1-1 Create value for participating in the alliance for its partnering agencies and organizations by sharing resources, materials and strategies.	Objective II-1-1a: Research past efforts and highlight past successes.
	Objective II-1-1b: Coordinate implementation of existing programs and identify opportunities for future coordination. Tactic II-1-1b-1: Establish a master database of potential target individuals based on contacts garnered from alliance members’ past efforts. Tactic II-1-1b: Compile and share information related to readiness events, resources, materials and financial opportunities at alliance meetings and through a centralized Web site. Tactic II-1-1b-3: Identify, track and share innovative “pilot initiatives” to assess their efficacy.
	Objective II-1-1c: Identify future shared messaging opportunities.
	Objective II-1-1d: Develop common core “motivational” messages.

Phase II	
Goal II-2: Build a community of earthquake/tsunami-ready Californians who, by demonstrating their readiness activities within their social circles, can help foster earthquake/tsunami readiness as a social movement, and disaster preparedness overall.	
Strategy II-2-1 Use the alliance’s supporting infrastructure to execute a consistent and ongoing communication effort.	Objective II-2-1a: Use the alliance’s supporting infrastructure to develop and promote the same readiness message that can be used by multiple media sources.
	Objective II-2-1b: Use the alliance’s supporting infrastructure to correct earthquake/tsunami response myths. Tactic II-2-1b-1: Focus efforts on three common myths (run outside during an earthquake; stand in a doorway during an earthquake; and use the “triangle of life” during an earthquake). Tactic II-2-1b-2: Disseminate consistent messaging that directly debunks these myths and provides accurate response instructions in preparation for responding to an earthquake/tsunami. Tactic II-2-1b-3: Prepare consistent earthquake/tsunami readiness messaging that can be delivered immediately following earthquakes/tsunamis in California or elsewhere in the world. Tactic II-2-1b-4: Create a rapid response team that is responsible for delivering the coordinated messages to the public through the alliance and as many alliance agencies and organizations as possible following these events.
Strategy II 2-2 Focus outreach efforts on Californians who are already engaged in earthquake/tsunami readiness activities.	Objective II-2-2a: Alliance members identify and compile existing contact information on Californians already engaged in readiness activities.
	Objective II-2-2b: Craft and deliver outreach messages to encourage this audience to continue preparedness activities and to promote preparedness in their social circles.

Phase II	
Strategy II 2-3 Focus outreach on Californians who, through their engagement in related activities, have demonstrated they are likely to be receptive to earthquake/tsunami readiness messages.	Objective II-2-3a: Alliance members identify and compile existing information on those already engaged in activities related to earthquake/tsunami readiness.
	Objective II-2-3b: Test conceptual messages through market research to indentify public values associated with readiness.
	Objective II-2-3c: Craft and deliver umbrella outreach messages that can be used to encourage these prospective alliance members to engage in earthquake/tsunami readiness activities, and to promote preparedness activities in their social circles.
Strategy II 2-4 Provide tools and opportunities for the community of earthquake/tsunami-ready Californians to display their readiness activities to others.	Objective II-2-4a: Leverage opportunities to create visual cues using existing programs and events. Tactic II-2-4a-1: Develop tools and other materials for target audiences to use to demonstrate their involvement in earthquake/tsunami readiness activities. Tactic II-2-4a-2: Sponsor disaster readiness events (e.g., contests and readiness parties).
	Objective II-2-4b: Use social media to provide a space for individuals to promote disaster readiness. Tactic II-2-4b -1: Explore options for sharing information, including blogs, Facebook, YouTube and Twitter, to provide an opportunity for people to share information, opinions, photos, and videos to document their readiness activities.

Phase III	
Goal III-1: Continue to cultivate collaboration among stakeholder alliance members.	
Goal III-2: Expand the community of earthquake/tsunami-ready Californians by reaching out to groups not yet engaged in earthquake/tsunami readiness activities.	
Strategy III-2-1 Identify and address gaps in the community of earthquake/tsunami-ready Californians.	Objective III-2-1a: Identify unengaged groups.
	Objective III-2-1b: Identify the unengaged groups that are easiest to approach and to link to the existing community of earthquake/tsunami-ready Californians.
	Objective III-2-1c: Use the alliance platform to develop and implement outreach initiatives targeted at selected groups that were not engaged as part of the Phase I-II efforts.
	<p>Tactic III-2-1c-1: Engage any agencies/organizations that actively work with the identified Phase III target audiences.</p> <p>Tactic III-2-1c-2: Identify why these target audiences were unengaged by Phase I-II activities. Use these findings when developing Phase III outreach approaches.</p> <p>Tactic III-2-1c-3: Deliver messages through as many sources and as many delivery channels as possible over an extended period of time.</p>

5. PHASE I: SUPPORT AND BUILD THE ALLIANCE

As part of the process of developing this Plan, Cal EMA convened a workgroup comprised of representatives from earthquake and tsunami readiness organizations across the state. This workgroup included federal, state, and local agencies as well as regional alliance leaders which formed the foundation of the statewide stakeholder alliance that will implement this Plan.

The first phase focuses on supporting and further expanding the stakeholder alliance itself through two key approaches. The first approach is based on expanding the stakeholder alliance membership through a targeted effort to develop awareness, engagement, and support for the stakeholder alliance and this Plan. The second is the simultaneous development and implementation of an infrastructure that supports the growing alliance’s collaborative planning efforts.

By strengthening support for the stakeholder alliance among “internal audiences”, i.e., agencies and organizations already involved with earthquake readiness, the stakeholder alliance will be in a position to coordinate the efforts of a diverse group of earthquake readiness organizations to effectively engage the public through outreach.

1. Key Target Audiences

Each stakeholder alliance member agency/organization targets a group of individuals that they want to educate and move to action. These “audiences” may be defined by their geographical location, age, disability/functional needs, spoken language, socioeconomic profile, or one of many other distinguishing characteristics. While alliance members will continue to focus their outreach on their own target audiences, for the purpose of this Plan, the term “target audience(s)” has a distinct meaning.

A “target audience” is the group of people or individuals that are targeted through the strategies identified in this Plan. These target audiences will change and evolve to fit the particular goals of the respective phase of the Plan being addressed based on the Plan’s phase, strategy, goal and tactics.

Goal I-1: Further develop awareness of, engagement in, and support for the Plan and alliance among internal audiences

Strategy I-1-1: Build a strong base of engaged alliance members and key senior leadership supporters

Objective I-1-1a:
Identify internal target audiences (potential new alliance members and key senior leadership supporters)

Objective I-1-1b:
Develop consistent messaging highlighting alliance benefits targeted to internal audiences

Objective I-1-1c:
Educate, inform and promote the alliance and Plan to build membership among

For example, during Phase I, the target audiences are “internal,” comprised of earthquake/tsunami readiness-related agencies and organizations, including the organizations and agencies that participated in the 2009 workgroup.

One important subset of target audiences is the senior staff of each agency and organization that is represented in the stakeholder alliance. Buy-in from executive-level leaders of the represented agencies and organizations is imperative to ensuring that the staff representing their agencies and organizations will be able to continue dedicating their time and energy to alliance activities over the long term.

During Phase II, many of the goals and strategies target specific external individuals or groups. While the Plan has its own evolving set of target audiences, the individual organizations that make up the alliance will continue to define and reach out to their own target audiences based on their own agency/organization’s missions.

2. Outreach Tools and Strategy

Strategic messaging crafted to resonate with each target audience will aid outreach campaign development. Messaging will highlight the reasoning and research behind the Plan as well as the benefits of becoming part of the stakeholder alliance. The outreach campaign will include developing a toolkit of communications materials that existing stakeholder alliance members can use to recruit new members and garner senior leadership support. The toolkit will include a general briefing that explains the stakeholder alliance and the vision, mission, goals and objectives of this Plan. It will also include talking points based on the key messages that are identified for each target audience. The talking points and briefing will help ensure the consistency and effectiveness of messaging.

Using materials in formats that are accessible to their constituencies, existing stakeholder alliance members will be able to leverage their own relationships with their target audiences as a means of building credibility for the Plan and the alliance among a strong base of engaged stakeholder alliance members and supporters.

To supplement the efforts of individual stakeholder alliance members, the alliance will convene a more formal statewide meeting for earthquake

Goal I-2: Cultivate collaboration among alliance members

Strategy I-2-1: Through existing workgroup members, develop the supporting infrastructure for collaborative planning efforts for earthquake readiness programs, activities and messages

Objective I-2-1a: Formalize a meeting design and schedule to continue convening current 2009 workgroup partners as a part of the developing alliance

Objective I-2-1b: Develop information- and resource-sharing tools for coordination

preparedness agencies and organizations that will be similar to the January 29, 2009 workgroup kick-off meeting in Sacramento. This meeting will introduce the Plan to a larger audience of potential alliance members and key senior leadership supporters.

3. Alliance Structure and Communications

The initial members of the statewide alliance, which includes the 2009 workgroup partners, will determine the supporting infrastructure and work plan to allow the growing number of stakeholder alliance members to participate in the ongoing collaborative planning efforts for earthquake readiness programs and activities.

Specifically, the 2009 workgroup partners will work with the confederation of regional alliance leaders to establish a meeting schedule and design format, (i.e., in-person, Webinar, conference call, etc.). The workgroup will create information and resource-sharing tools to communicate lessons learned, promising practices and tactical/operational resources. Proposed tools include establishing a centralized matrix to identify and coordinate members' planned outreach efforts and an online social networking platform, such as the 2009 workgroup's Ning Web site, to allow real-time collaborative information-sharing.

The stakeholder alliance will use ShakeOut 2009 and 2010 planning to materials to implement and refine the collaborative planning platform and structure that was established by the workgroup partners. The stakeholder alliance will establish and assemble at least two subcommittees for this event. The first subcommittee will address and coordinate instructional messaging associated with ShakeOut. The second subcommittee will coordinate the development and funding of statewide ShakeOut supplemental materials. These subcommittees will use the established meeting schedule, information/resource-sharing tools and the online social networking platforms to accomplish the planning objectives for ShakeOut 2009 and 2010.

Stakeholder alliance members will update and refine the alliance structure and its internal support mechanisms based on the alliance's experience in ShakeOut 2009 and 2010 planning efforts.

Strategy I-2-2: Implement the alliance's supporting infrastructure for the alliance's collaborative planning efforts for Shakeout 2009 planning.

Objective I-2-2a:
Assemble instructional messaging subcommittee to coordinate instructional messaging for ShakeOut.

Objective I-2-2b:
Assemble collateral materials subcommittee to coordinate development and funding of statewide ShakeOut collateral materials

Objective I-2-2c:
Update and refine alliance structure and

6. PHASE II: OUTREACH TO TARGET PUBLIC AUDIENCES

Phase II activities are triggered when the stakeholder alliance is organized and ready to develop its own initiatives and to begin the process of reaching out to external audiences (at this point, the stakeholder alliance's ability to expand its Phase I activities beyond the development of the alliance platform.) Phase II represents an evolution of Phase I activities not a replacement of those activities. The alliance will continue to grow and cultivate collaboration among its members, including leveraging existing opportunities to foster collaborative planning efforts for upcoming statewide events and initiatives.

Phase II alliance activities emphasize the use of the stakeholder alliance to develop and implement a coordinated umbrella strategy which includes developing messaging and supporting tools for the targeted public audiences. The goal of this effort is to build a community of earthquake-ready Californians who, by demonstrating their readiness activities within their social circles, can help foster earthquake readiness as a social movement.

The goals, strategies, objectives, and tactics outlined in this Plan will be used by the stakeholder alliance as a group and by its member agencies and organizations. Members of the alliance can also use the stakeholder alliance's strategies and tactics to accomplish these goals for themselves at all organizational levels, (state, regional, local, and even at the neighborhood level.)

1. Outreach Tools and Activities

Participation in the stakeholder alliance is not only valuable to the alliance as a whole, but its individual member agencies and organizations also benefit from the collaborative efforts. One of the key benefits to participating in the stakeholder alliance is the opportunity for alliance members to pool resources and to share materials, strategies and information. These activities are also necessary for building a framework to produce consistent, frequent, and long-term messaging from the members of the stakeholder alliance.

Goal II-1: Continue to cultivate collaboration among alliance members

Master Database

One key step to information-sharing among stakeholder alliance members is establishing a master database of potential target audience individuals (see *Key target audiences* below) who opt-in for information. This database will be developed through contacts garnered from stakeholder alliance members' past efforts.

Not only will this centralized, "opt-in only" master database serve the stakeholder alliance in its outreach efforts, it will also help individual alliance members identify people who may be part of their own target audiences. For example, if two Los Angeles-based organizations dealing with separate readiness issues enter their contacts into the master database, each organization may be able to find new individuals to incorporate into their own target audiences.

Because privacy restrictions may prevent some agencies and organizations from including their existing databases in the master database, the alliance will work together to ensure that information being distributed by the alliance is also provided directly to its member agencies and organizations. This will ensure that alliance members can share appropriate earthquake readiness information with recipients in their own privacy-protected databases. By doing so, an individual agency or organization may be able to use its own platform to distribute the alliance's preparedness information without violating privacy standards.

NOTE: To ensure accessibility, all databases will need to comply with Section 508 of the Rehabilitation Act

Coordination and Resource-Sharing

In addition to the master database, the stakeholder alliance will also compile and share information on readiness-related events, resources, materials, and financial opportunities via alliance meetings and a centralized Web site (potentially the Workgroup's existing Ning site). Using this shared information to identify partnership opportunities will eliminate duplication of efforts, save human and financial resource, and also feed into overarching all-hazard preparedness and exercise strategies.

Strategy II-1-1: Create value to the alliance's partnering agencies and organizations by sharing resources, materials and strategies.

Objective II-1-1a:
Research past efforts and highlight past successes.

Objective II-1-1b:
Coordinate implementation of existing programs and identify future coordination opportunities.

Objective II-1-1c:
Identify future shared messaging opportunities.

Objective II-1-1d:
Develop common core motivational messages.

Examples of information-sharing opportunities include:

- Two agencies/organizations participating in the same overarching event, even if they are geographically separated, could “divide and conquer” the cost of labor associated with preparedness materials. One entity could produce joint brochures, while the other could develop a joint newsletter.
- Two or more alliance member agencies/organizations could develop joint funding proposals for disaster readiness outreach activities.
- The stakeholder alliance will identify, track and share innovative “pilot initiatives” (e.g., the Culture of Preparedness effort developed by the City and County of San Francisco) to assess their effectiveness. This information will be useful in helping to determine “best practices” and in developing alliance member readiness initiatives.

2. Building the Earthquake/Tsunami-Ready Community

There are more than 36 million people living in California today, and the growing population is projected to be nearly 50 million by 2025. To reach the largest number of Californians in this vast state over the long term, it is critical that the stakeholder alliance-sponsored public outreach campaign “go viral,” that is, become a self-sustaining movement. Therefore, the approach in Phase II is focused on creating a strong base of public advocates led by individuals who have already shown some commitment to earthquake/tsunami preparedness or are otherwise active in their communities. Their actions will serve as examples to others and can be used to leverage these advocates’ social circles to amplify the stakeholder alliance’s efforts exponentially.

The stakeholder alliance will accomplish this by creating consistent overarching (“umbrella”) messaging, strategies and tactics that can be used by the alliance as well as the alliance’s individual member agencies/organizations on a statewide, regional, and local basis to engage these public advocates.

Research shows that for readiness messaging to be effective, it must be consistent, unrelenting, and come from a multitude of different sources. To achieve this and be heard above the fray of other campaigns, the stakeholder alliance will work together to develop consistent overarching campaign

Goal II-2: Build a community of earthquake/tsunami-ready Californians who, by demonstrating their readiness activities within their social circles, can help foster earthquake readiness as a social movement.

Strategy II-2-1: Use the alliance’s supporting infrastructure to execute a consistent and ongoing communication effort.

Objective II-2-1a: Use the alliance’s supporting infrastructure to develop and promote the same readiness message from multiple sources.

Objective II-2-1b: Use the alliance’s supporting infrastructure to correct earthquake/tsunami response myths.

messages and to deliver these messages through as many organizations and media sources as possible whenever an opportunity presents itself. NOTE: The “target audiences” of these efforts is described later on in this section.

3. Correcting Earthquake Response Myths

In the case of earthquake readiness, misinformation can be as dangerous as no information at all. Proponents of some of the most prevalent earthquake response myths have already spread their messages virally, making them difficult to dispel. As an example, information about the “triangle of life” has spread online and by word-of-mouth and has become self-sustaining. The stakeholder alliance needs to reach this level of sustainability for its own messages. The alliance will create messaging to address the three following common earthquake response safety myths:

- *Run outside during an earthquake*
- *Stand in a doorway during an earthquake*
- *Use the “triangle of life” during an earthquake*

In advance of an earthquake or tsunami, the stakeholder alliance will disseminate previously prepared consistent messaging that correct these myths and provides accurate response instructions. In order to reach people when they are most likely to be thinking about earthquake/tsunami readiness, the stakeholder alliance should distribute these consistent earthquake and tsunami readiness messages immediately following any earthquake or tsunami in California or elsewhere in the world. These messages will be generic in nature rather than specifically about the earthquake/tsunami that occurred. It will communicate the alliance’s messages about general earthquake/tsunami readiness. It is imperative that the alliance respond and deliver consistent, accurate response information quickly after an earthquake and/or tsunami. To meet the need for speedy delivery, the alliance will create a rapid response team to deliver coordinated messages to the public through multiple sources, including the alliance itself and its many member agencies and organizations, as quickly as possible following these events. This information can be disseminated rapidly through traditional public relations tools, such as news releases, media advisories and newswires as well as social media tools, such as Twitter, Facebook and blogs. This information can also be shared by scheduling editorial

board meetings at major newspapers and other media outlets throughout the state. This venue can also be used to introduce the alliance, position the alliance as a reliable resource, and provide information about earthquake/tsunami readiness and common myths.

4. Key Target Audiences

The key target audiences for Phase II include Californians already engaged in earthquake/tsunami preparedness activities and Californians who are active participants in other nonprofit/volunteer agencies/organizations.

Already Engaged Californians

This target audience is particularly important and effective to engage because it includes people who:

- Have already adopted the behavior this Plan strives to cultivate, i.e., they already engage in earthquake/tsunami readiness activities.
- Already value earthquake readiness, and so are primed to share their readiness “habits” with individuals in their social networking circle who have not become earthquake-ready

Members of this target audience will function as de facto alliance “partners,” promoting readiness in their own social circles through verbal and visual cues. By talking about earthquake/tsunami readiness activities with their friends, participating in earthquake/tsunami drills, and developing earthquake/tsunami plans with their families while they serve as an example for their friends and family. This is a combination of activities scientifically proven to be effective for engaging other people to prepare for disaster.

Californians Likely to be Receptive

This target audience includes people who are actively involved with various nonprofit/volunteer organizations. These types of organizations could range from state initiatives like California Volunteers to local organizations like San Francisco’s Interfaith Council. Participation in these organizations demonstrates these individuals’ predisposal to taking action, which is a good indicator that this audience will be receptive to earthquake and tsunami readiness messages and activities. In addition, these agencies/organizations’

Strategy II-2-2: Focus outreach efforts on Californians who are already engaged in earthquake/tsunami readiness activities.

Objective II-2-2a: Alliance members identify and compile existing contact information on Californians already engaged in readiness activities.

Objective II-2-2b: Craft and deliver outreach messages to encourage this audience to continue their preparedness activities and to promote preparedness in their social circles.

existing membership structures will give the stakeholder alliance yet another network through which to deliver messaging.

Engagement of this audience is a two-step process. First, this audience must support earthquake/tsunami readiness, not just conceptually, but also through active participation in readiness activities. (See *Messaging* section, page 25.) To garner support within this audience, conceptual messaging should link earthquake/tsunami readiness to the audience's existing values (see *Messaging: Tailoring Message to Your Target Audiences* sidebar, page 26). For example, to engage a local neighborhood watch group in earthquake readiness activities, the concepts of community and safety, which is inherent in neighborhood watch activities, must be linked to earthquake readiness. Instructional earthquake/tsunami readiness messaging should describe the tangible steps neighborhood watch members should take to be earthquake-ready and the information would be delivered following conceptual message delivery.

At the point when these “likely to be receptive” target audience members are participating in earthquake readiness activities, they effectively become members of the “already engaged Californians” group. This means that they can promote readiness in their own social circles through verbal and visual cues as described above.

5. Messaging

To engage these two target audiences, the stakeholder alliance must develop both conceptual and instructional outreach messages that will be designed to encourage Californians who are already engaged in earthquake/tsunami readiness activities to promote earthquake/tsunami preparedness in their social circles by using verbal and visual cues. (See the Conceptual and Instructional Messages section below.) Based on research, fear-based messages are ineffective motivators. These messages should emphasize that being disaster-ready empowers people to survive during and after a disaster.

Strategy II-2-3: Focus outreach on Californians who, through their engagement in related activities, have demonstrated they are likely to be receptive to earthquake/tsunami readiness messages.

Objective II-2-3a:

Alliance members identify and compile existing information on those already engaged in activities related to earthquake/tsunami readiness.

Objective II-2-3b: Test conceptual messages with market research to identify public values associated with readiness.

Objective II-2-3c: Craft and deliver umbrella outreach messages that can be used to encourage this audience to engage in earthquake/tsunami readiness activities, and to promote their activities in their social circles.

Research indicates that fear-based messages are ineffective motivators. Earthquake/tsunami readiness messaging should frame earthquake/tsunami readiness in a positive, empowering light.

Conceptual and Instructional Messages

A message is not merely a slogan or tag line. A message communicates the core of the idea being presented regarding earthquake/tsunami readiness. There are two categories of earthquake/tsunami readiness messages:

- The **conceptual** message associates earthquake/tsunami readiness with an underlying theme without directly stating the idea.
- The **instructional** message provides clear direction. Examples of instructional messages include drop, cover, and hold during an earthquake, go to higher ground when a tsunami warning is issued, buy an earthquake kit, develop an earthquake/tsunami plan with your family, and establish alternative solutions for people with access and functional needs.

Traditionally, earthquake/tsunami readiness outreach activities have relied heavily on instructional messaging by providing clear direction on what to do to get ready. Conceptual messaging is designed to make people more receptive and responsive to instructional messaging. Conceptual messaging links a “cultural value” to readiness. Depending on the target audience, the cultural value could be related to personal and family well-being, personal responsibility, fun, or a number of other concepts.

By delivering a conceptual message to a target audience first, the target audience will be primed to not only pay attention to the instructional message, but also to seek additional instructional messages.

This approach is commonly used in arenas outside of disaster readiness. Examples include:

- Coca Cola advertisements motivate people to buy Coke by appealing to the audience’s values and Coke’s intangible benefits, rather than solely promoting Coke’s physical attributes.
- Volvo’s conceptual messages associate the product with safety, a value marketers have determined to be important to potential Volvo buyers.
- A recent McDonalds campaign promoted the conceptual message of “Food, Folks, and Fun,” by linking McDonalds’ food to the intrinsic values of family, friends, and shared experiences. Once the target

Messaging: Tailoring messages to target audiences.

- Know your audience
- Understand their concerns, issues and agendas
- Engage the target audience:
 - Identify audiences early in the communication process.
 - What are the questions and concerns the audience might have?
 - How will the messages address those questions and concerns?
 - Develop clear and concise key messages and provide supporting information.
 - Share messages with alliance members.
 - Use spokespersons to deliver the messages.
 - Ensure that the organization has a central repository of consistent messages.
 - Ensure alliance members are using the same messages

audiences were “primed” with this conceptual message, McDonalds delivered messages related to purchasing their Big Mac and fries.

The stakeholder alliance and its member agencies and organizations can successfully apply the same strategies to earthquake/tsunami readiness education. By using conceptual messages that connect to their audiences’ values, the alliance and its members are priming their target audiences to receive, embrace and act on instructional messages.

Branded Versus Non-Branded Messaging

As the stakeholder alliance develops conceptual and instructional messages, it should consider how those messages will be used in outreach activities. Many of the messages delivered through supplemental materials, events, and other traditional communication strategies will be branded. Branded messages are those messages that are clearly identifiable as coming from a particular source, i.e., the alliance. The benefit of branded messages is that they automatically carry the authority and credibility of the alliance. Also, because they are clearly identifiable as coming from the same source, new messages build on previously delivered messages.

The stakeholder alliance also needs to consider creating unbranded messages to support its grassroots outreach efforts and its social media-based outreach. Unbranded messages are those messages that are not readily identifiable as coming from a specific agency or organization. For example, when using social media tools, such as Facebook, or when encouraging target audiences to share their readiness activities within their own social circles, messages will be most effective if they are viewed as coming from the community itself, rather than the alliance. This community-based approach helps foster the “viral” and self-sustaining nature of the campaign among public audiences.

6. Enabling Campaign Messengers

Many people rely on and trust the information they receive through their social networks. To support the developing community of earthquake/tsunami-ready Californians, the stakeholder alliance and its members will facilitate the development and implementation of outreach tools and opportunities that are designed for community members use to talk about and display visual cues that demonstrate their readiness activities within their social circles. These tools will

help them become messengers of earthquake/tsunami readiness information. Social scientific research confirms that verbal and visual cues are the most effective mechanisms for promoting awareness, understanding, engagement, and action.

The stakeholder alliance will develop opportunities for the target audiences to demonstrate their involvement in earthquake/tsunami readiness activities such as ShakeOut, by providing an assortment of tools, including bumper stickers and other supplemental materials. Individual member agencies and organizations may consider sponsoring events like contests, which can be held at local events to promote visual cues, and readiness parties, which can utilize “Tupperware party” type gatherings.

In addition to using various events, the stakeholder alliance will leverage social media tools, such as blogs, Facebook, YouTube, and Twitter, to create an online community that provides a place for people to promote and talk about earthquake/tsunami readiness; a place where they can share information, opinions, photos, and videos documenting their readiness activities.

NOTE: A comprehensive outline of goals, strategies, objectives, and tactics are in Section 5.

Strategy II-2-4: Provide the necessary tools and opportunities for the community of earthquake/tsunami-ready Californians to display their readiness activities to others.

Objective II-2-4a: Leverage opportunities to create visual cues using existing programs and events.

Objective II-2-4b: Use social media to provide a space for individuals to promote disaster readiness.

7. PHASE III: EXPANDING OUTREACH TO OTHER PUBLIC AUDIENCES

Phase III of this Plan builds on the efforts of Phases I and II by focusing on the same goals of nurturing collaboration among earthquake and tsunami preparedness outreach organizations. Phase III will also use the alliance platform to promote and execute a consistent communication effort to engage the public in building a community of earthquake/tsunami-ready Californians; support and expand its developing base of earthquake/tsunami readiness public advocates and support and cultivate collaboration internally among its members. This effort will leverage existing opportunities for engaging in collaborative planning efforts for upcoming statewide events and initiatives.

Goal II-1: Continue to cultivate collaboration among the stakeholder alliance members.

The goal of Phase II is to develop a self-sustaining movement that spreads earthquake/tsunami readiness messages via the social circles of earthquake/tsunami-readiness advocates (as outlined in Phase II) which will reach many people. However, there will probably be audiences who, for various reasons, are not engaged by the community of earthquake/tsunami-ready Californians. Phase III is aimed at addressing these uninvolved groups.

1. Connecting With Unengaged Groups

The primary effort of Phase II focuses on building a community of earthquake/tsunami-ready Californians and empowering them to deliver earthquake/tsunami readiness messages within their social circles. Members of this community will demonstrate their readiness activities through verbal and visual “cues”. This combination of cues is scientifically proven to be effective for engaging other people to prepare for disaster. In this way, community members will leverage their personal connections to create a “viral,” self-sustaining movement that amplifies the alliance’s efforts. This community will naturally expand to include friends, neighbors and other individuals. At this point, it is anticipated that it will spread exponentially through the social circles of these friends and neighbors.

Goal III-2: Directly reach out to groups not yet engaged to continue building a community of earthquake/tsunami-ready Californians

It is expected that there will be some groups that this “viral” preparedness movement does not reach. Since it is critical to engage as many Californians as possible in earthquake/tsunami readiness activities, it will be necessary to specifically target the unengaged groups. These groups may be unengaged due

to geographic seclusion, language barriers, socio-economic differences or other issues. The stakeholder alliance will identify these unengaged groups and develop strategies and tactics to directly engage them.

2. Identifying Unengaged Groups

It will be necessary to grow and monitor the “viral” movement created by Phase II activities to help the stakeholder alliance identify these unengaged groups. At this time, the unengaged groups have not been identified. Thus, this Plan cannot outline specific strategies or tactics for reaching out to these groups. However, some general guidelines for the alliance to consider when targeting these groups are:

- It is not possible to target all the unengaged groups at the same time. Therefore, the alliance will reach consensus on which groups to target first and then other groups can be targeted as the Plan progresses.
- Stakeholder alliance members will meet to collectively develop strategies for reaching out to the target audiences.
- The stakeholder alliance will specifically engage any agencies/organizations that actively work with the identified Phase III target audiences for two reasons:
 - These agencies/organizations are best equipped to assist with the development of outreach strategies for the audiences they work with on a regular basis.
 - As a result of Phase II activities, these agencies/organizations may become stakeholder alliance members so that they and their constituents are already included in ongoing outreach efforts.
- Before tactics are developed for this group, information is needed to identify why these groups were unengaged in the first place. This background information will help to determine how the alliance can develop an effective outreach tactic for these groups.
- The conceptual messages developed in Phase II should remain consistent for all audiences. However, the way the messages are delivered will change depending on the target audience.

Strategy III-2-1: Identify and address gaps in the community of earthquake/tsunami-ready Californians.

Objective III-2-1a: Identify unengaged groups.

Objective III-2-1b: Identify the unengaged groups that are the easiest to approach and link to the existing community of earthquake/tsunami-ready Californians.

Objective III-2-1c: Use the alliance platform to develop and implement outreach initiatives targeted at selected groups that were not engaged as part of the

While the outreach strategies and tactics are not yet developed, the Plan's tenets will remain consistent across all phases:

- Phase III outreach may target diverse demographics and populations with access and functional needs who are at high risk during and following a disaster. Research indicates that demographics are among the many factors that do not significantly affect disaster preparedness. Therefore, even in Phase III, outreach efforts must use a conceptual message that is consistent with conceptual messaging used in Phase II.
- Researchers were careful to point out that while demographics do not change the level of motivation that people have to become disaster ready, demographics could impact the actions individuals in those demographics can take. For example, people identified in the low socioeconomic demographics may not have the necessary funds to purchase the needed readiness items. Similarly, individuals with functional needs, such as an individual who uses a wheelchair, or needs a cane to walk, may not be able to “drop, cover and hold on” during an earthquake. Therefore, it may be necessary to develop tailored instructional messages depending on the target audience that may be different than those used in Phase II. The stakeholder alliance must identify these functional needs as well as other constraints when developing instructional outreach messages for the groups being addressed in Phase III.
- The message must be delivered in accessible formats and diverse languages by as many media sources and through as many delivery channels as possible. Message delivery strategies may require new tactics to effectively reach these new groups.
- The message must be delivered consistently over a long period of time.

3. Desired Outcome of Phase III Efforts

As the stakeholder alliance works with these diverse groups, the groups will in turn become part of the community of earthquake-ready Californians. As a result, they will begin demonstrating their readiness to their own social circles. The conversion of unengaged groups to engaged and disaster-ready participants allows the stakeholder alliance to identify, target and focus on the next group of unengaged individuals. Phase III activities and messages can be tailored to meet the needs of the new unengaged group.

8. EVALUATION

This Plan employs strategies, objectives and tactics that are based in part on the results of recent research on the efficacy of existing earthquake and tsunami readiness and education efforts, as well as the most effective ways of delivering earthquake/tsunami readiness information to motivate people to take action. This Plan's strategy is to deliver consistent messaging from many sources, through multiple communications channels, and over the long term. This strategy is derived from one of the main findings of this research.

To evaluate the effectiveness of this Plan, the stakeholder alliance should consider follow-up research on existing readiness baseline data. Then, continued tracking and re-evaluation of strategies, objectives, and tactics should be conducted as the Plan is implemented. Key objective and subjective measurements could include:

- The number of agencies and organizations incorporating this Plan into their own efforts.
- Feedback from periodic surveys (similar to surveys used for recent research) to measure any changes in Californians' level of readiness.
- Results from a prepackaged survey that can be developed in advance of an earthquake/tsunami and disseminated directly following an earthquake. This survey would measure people's earthquake/tsunami responses and determine whether or not the messaging was effective.

In addition to best practice research and the use of scientifically proven strategies, this Plan promotes innovative approaches that have not yet been assessed through research, (i.e., social media and conceptual messaging as a means to promote earthquake readiness.) Because these approaches have not yet been scientifically assessed, the stakeholder alliance should consider developing metrics to assess the effectiveness of these new approaches based on their ability to drive earthquake/tsunami-readiness actions.

The stakeholder alliance will classify some of the current and upcoming innovative efforts in different regions as pilot programs. These innovative methods are potential sources for identifying best practices for further development as part of earthquake/tsunami readiness outreach. The stakeholder alliance will study the ongoing development of these efforts and then assess them for statewide application. An example of this approach is the current San Francisco Department of Emergency Management's sponsored effort to foster a readiness movement in the San Francisco populace. This is a pilot program that could potentially be rolled out to other cities in the future.

Alliance members can also survey agencies to identify any existing relevant research and/or partner with these companies to create and implement low-cost/free surveys.

9. PLAN UPDATES

This Plan is a living document that needs to be adapted to changing circumstances, new information and evolving needs. While the Plan is intended to lay out a five-year course of action, it needs to be evaluated regularly and revised based on the evolving situations. Cal EMA and the stakeholder alliance should work together to reconvene the workgroup (the group of representatives from key earthquake and tsunami readiness agencies and organizations across the state that originally created this Plan) on an annual basis to revisit the Plan, assess the suitability of outlined goals, and revise it as necessary.

The workgroup tasked with updating the Plan should, as much as possible, be the same individuals who participated in its original development, but it should also include any new alliance members that can contribute added skills or perspectives to the Plan's ongoing development.

Key topics to consider for Plan updates include:

- Are Plan goals, strategies, objectives and tactics still relevant?
- What research has been conducted since the last Plan revision?
- How do new research results affect the Plan's direction? Do the research results suggest that any of the strategies should be altered or halted?
- Are any research studies needed at this time to further address the Plan's strategies, objectives, and/or tactics? If so, what must the research measure?
- Have any of the identified pilot programs demonstrated best practices that could be utilized and incorporated into the Plan by the alliance?
- Are any of the pilot programs ready to be launched on a statewide basis? How will this be determined?
- Are outreach activities reaching all of the target audiences effectively? If not, which target audiences are not being reached? Why? What strategy/objectives/tactics can be used to reach these audience(s)?
- Are there any new social media tools that should be incorporated into the Plan?
- Is the alliance structure working to meet the identified strategies and tactics? If needed, how can it be strengthened or improved?

Upon revision of the Plan, a revised copy of the Plan should be sent to all alliance member agencies and organizations. A digital copy should be made available for downloading through the alliance's online platform (e.g., Ning site) as well as individual participating agency/organization Web sites.

APPENDICES

APPENDIX A: PROCESS AND PARTICIPANTS

In the fall of 2008, two major events promoting public earthquake readiness were held in California, the Bay Area's 1868 Hayward Earthquake Anniversary and The Great Southern California ShakeOut. The campaigns supporting these events were not led by a single government or nonprofit entity. Their success was made possible through the collaboration of a wide group of public earthquake education stakeholders from all levels of government, including federal, state and local agencies, as well as nonprofits, businesses, community-based organizations, and individuals.

The success of these campaigns provided the impetus for existing stakeholder alliances across the state to come together to discuss merging their mutual interests under the banner of one statewide organization in the interest of improving California's earthquake and tsunami preparedness. This statewide alliance united leaders in government, disaster response, science, business, media, education, and local communities. Their mission was to inspire mutual responsibility for community earthquake safety and recovery; to increase public awareness, preparedness, and mitigation; to improve public response and recovery planning; and ultimately to reduce injuries, loss of life and property damage from future earthquakes and thus maintain the quality of life Californians enjoy.

In support of this collaborative approach, the California Emergency Management Agency (Cal EMA) sought and received Federal Emergency Management Agency (FEMA) Emergency Management Preparedness Grant funding to develop a five-year strategic earthquake and tsunami readiness communications plan. Multiple agencies and organizations came together in early 2009 to address the need for statewide collaboration through the development of this document, the *California Earthquake Communications and Outreach Plan*.

To kick off plan development, Cal EMA convened a January 2009 meeting of agencies and organizations that were involved in earthquake and tsunami readiness activities throughout the state. A workgroup was formed from a subset of meeting attendees (see Acknowledgements: 2009 Workgroup Participants section, page 3) to provide strategic input for the development of this Plan. This workgroup included representatives from the three regional stakeholder groups that had originated the nascent statewide stakeholder alliance of earthquake readiness-related agencies, social scientists and organizations across the state. It also included representatives of key state agencies, county and local government, humanitarian organizations, and the media.

The workgroup met six times during the first half of 2009. During this process, the workgroup determined that the most effective course was to create a plan that provided scope and guidance for developing a statewide stakeholder alliance. During this early stage, the statewide group was

composed of an “alliance of the willing.” This Plan is not intended to impose a reporting structure on the coalition, but it fosters development of the organization to ensure coordination and collaboration of communications efforts, pooling of resources, support of grassroots community efforts, and use of consistent messaging among stakeholder alliance member agencies and organizations at the state and local levels.

This Earthquake Communications and Outreach Plan focuses efforts on engaging and supporting “internal audiences,” those agencies and organizations that will use this Plan and are expected to become stakeholder alliance members, before targeting the general public.

The workgroup of agencies and organizations that guided the development of this Plan will continue to work together as participants in the statewide stakeholder alliance. This will provide a seamless transition from the scope development to the implementation of responsibilities outlined in this Plan. The importance of using this alliance-based approach is supported by the body of social science evidence-based research that identifies what influences public readiness action. The California Readiness Advisory Group (CRAG), a cross-sector group of disaster preparedness leaders convened by California Volunteers and Cal EMA, has also lent initial support to the alliance-based approach.

1. Acknowledgements: 2009 Workgroup Participants

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APPENDIX B: EARTHQUAKE AND TSUNAMI READINESS OUTREACH EFFORTS

- **1868 Hayward Earthquake Alliance:** The 1868 Hayward Earthquake Alliance was formed to help coordinate and promote efforts and activities between agencies and organizations throughout the greater San Francisco Bay Area that were planning to commemorate the 1868 earthquake. Organizers worked collaboratively with scientific and professional societies, media, schools, and universities, public policy organizations, government, parks, business and industry, academic/research groups, museums, and libraries to promote preparedness at a wide variety of public venues including dedications, ceremonies, memorials, exhibits, preparedness fairs, public lectures, open houses, tours, workshops, and conferences. (<http://1868alliance.org>)
- **1906 Earthquake Centennial Alliance:** The 1906 Earthquake Centennial Alliance was formed to help coordinate and promote efforts and activities between agencies and organizations throughout northern California that were planning to commemorate the 1906 earthquake. Organizers worked collaboratively with scientific/professional societies, media, schools and universities, public policy organizations, government, parks, business and industry, academic/research groups, museums, and libraries to promote preparedness at a wide variety of public venues including dedications, ceremonies, memorials, exhibits, preparedness fairs, public lectures, open houses, tours, workshops, and conferences. (<http://1906centennial.org>)
- **American Red Cross:** This organization connects directly with individuals and families through in-person disaster readiness presentations. The overarching “Be Red Cross Ready” campaign focuses on three basic steps to prepare for any disaster: Get a Kit, Make a Plan, and Be Informed. There are other related Red Cross programs that specifically focus on readiness for earthquakes, fires and terrorism. (www.redcross.org)
- **Earthquake Preparedness Month:** In 1985, the Governor’s Office of Emergency Services’ (OES), launched the Earthquake Preparedness Month campaign to encourage agencies and organizations across the state to concentrate their earthquake preparedness outreach efforts during April and to coordinate messages regarding the need for earthquake readiness. OES provided materials, including activity guides and guidance, and direction on collaboration to local governments, schools, businesses, and community groups. This campaign culminates in a statewide drill and dozens of local events that occur throughout the state. This effort is no longer active at the state level. In 2003, OES shifted its resources to focus on an all-hazards campaign

(Be Smart, Be Responsible, Be Prepared, Get Ready), and ended the Earthquake Preparedness Month campaign.

- **Emergency Survival Program:** Now in its 20th year, Los Angeles County's Office of Emergency Management leads this partnership of emergency managers from all southern California counties, many large cities, the American Red Cross, Southern California Earthquake Center (SCEC), Southern California Edison, and others. The primary role of this program is to develop a series of multi-hazard public information materials, including monthly Focus Sheets, newsletter articles, and public service announcements related to a yearly theme. In 2006, the program focused on earthquakes and developed seven of their monthly Focus Sheets based on the "Seven Steps to Earthquake Safety" that were included in "Putting Down Roots in Earthquake Country". These sheets were used again in 2008. (www.espfocus.org)
- **Great Southern California ShakeOut:** At 10 a.m. on November 13, 2008, millions of southern Californians participated in this massive earthquake drill to practice what to do during and after a major earthquake. Individuals, families, businesses, schools and organizations joined firefighters and other emergency responders who were also involved in the statewide "Golden Guardian" exercise that same week. This was the United States' largest-ever earthquake preparedness activity. It was also an unprecedented opportunity for the Southern California Earthquake Alliance to educate the public on earthquake preparedness. (See www.shakeout.org)
 - More than 5.4 million participants were registered to participate through the website at www.ShakeOut.org, which was hosted and maintained by SCEC. This exceeded the initial goal of registering five million people. Registrants received information on how to plan their drill, get prepared, and utilize multimedia resources to encourage others to participate and to use during their drill. These resources included audio and video drill narrations, 3D animations, online games, and other materials.
 - The ShakeOut drill was based on a potential 7.8 magnitude earthquake occurring on the southern San Andreas Fault. Dr. Lucy Jones from the USGS led a group of over 300 scientists, engineers, and others to study the likely consequences of this enormous earthquake in great detail.
 - In addition to the ShakeOut drill, the City of Los Angeles hosted an International Earthquake Conference on November 12-14, which brought hundreds of international and regional experts together to discuss policy, planning, and preparedness.

- Sponsors of the ShakeOut drill included USGS, the National Science Foundation, FEMA, Time Warner Cable, Cal EMA, Home Depot, City of Los Angeles, State Farm, California Earthquake Authority, Kaiser Foundation Health Plan, Tyco Electronics, Institute for Business and Home Safety, ABC7, and several other sponsors.
- **Humboldt Earthquake Education Center (HEEC):** The Center was formed in 1985 to promote the California Earthquake Education Project (CALEEP) curriculum for K-12 classes in California. Since then, HEEC has developed a number of educational products and programs including the Earthquake Education Through Theatre Arts program, workshops for teachers, emergency planners and other groups, a daily “earthquake hotline” telephone recording updating regional, national and global earthquake activity, and three editions of “Living on Shaky Ground,” an earthquake-tsunami preparedness magazine for North Coast California. A 4th edition of Living on Shaky Ground was published in late 2009 which was directed towards an expanded audience, including all of Northern California north of Santa Rosa. HEEC is one of the main participants in the Redwood Coast Tsunami Work Group (RCTWG).
- **Live-Code Tsunami Test:** Cal EMA, in coordination with the RCTWG has sponsored live code testing of the tsunami warning communications system since 2008. This test is held on the third Wednesday in May. The test disseminates a message over the Emergency Alert System using the same codes that an actual event would use. This test exercises traditional media, such as radio, television and the National Oceanic and Atmospheric Administration (NOAA) weather radio, as well as other notification methods, such as sirens, reverse calling, and civil air-patrol flyovers. A concentrated tsunami education effort is also conducted in conjunction with the test.
- ***Putting Down Roots in Earthquake Country and related products:*** In 1995, SCEC, USGS, and a large group of partners (now the Alliance) developed and distributed two million copies of a 32-page color handbook based on earthquake science, mitigation and preparedness. Since 2004, the Alliance has produced an updated handbook each year with support from the California Earthquake Authority and other sponsors. The preparedness section is now organized as the “Seven Steps to Earthquake Safety.” (See www.earthquakecountry.info for additional information.)
 - More than three million copies of a new version of the handbook have been distributed in newspapers, home improvement centers, by the American Red Cross, through an online order form managed by SCEC, and by many Alliance partners. A version in Spanish is also available now.

- In 2005, the USGS and many partners produced a Bay Area version using the same name in advance of the 1906 Earthquake Centennial. In 2006, they developed multi-language editions of the “Seven Steps” section called “Protecting Your Family From Earthquakes.”
 - In 2008, the Southern California Earthquake Alliance produced the “Seven Steps to an Earthquake Resilient Business” as a supplement to all these versions.
 - Humboldt State University was scheduled to distribute a major update to its “Living on Shaky Ground” booklet in 2009, which also includes the “Seven Steps” and incorporates tsunami information.
 - Finally, in 2008 the Southern California Earthquake Alliance produced the “Seven Steps to an Earthquake Resilient Business” as a business supplement to all these versions.
- **Redwood Coast Tsunami Work Group (RCTWG):** This is a public-private interagency group of local, state and federal agencies, tribal governments, relief and service groups, land managers, scientists, and business groups from Del Norte, Humboldt, and Mendocino Counties. This group is working to reduce earthquake and tsunami risks and coordinate mitigation activities on California’s North Coast. The group produces educational materials, fosters tsunami evacuation planning and signage, coordinates drills and emergency response exercises, and assists communities in NOAA’s TsunamiReady application process. The group’s major outreach effort is running the annual Earthquake – Tsunami Room at the Humboldt and Del Norte County fairs. The room is staffed by professionals from RCTWG agencies and by students from Humboldt State University. Exhibits have included a shake trailer, a real-time earthquake display, a seismograph, a liquefaction demonstration, an earthquake-tsunami theater, and preparedness materials.
- **San Diego County Office of Emergency Services:** This agency leveraged social media to create an online hazards education resource at ReadySanDiego.org. Their Web site includes blogs, YouTube videos, and Twitter feeds, and it allows the public to sign up for text message alerts that includes information about emergencies and disaster response efforts. (See ReadySanDiego.org for more information.)
- **Southern California Earthquake Alliance:** This group identifies common messages, shares and promotes existing resources, and develops new activities and products. It was organized in 2003 as the “Earthquake Country Alliance” (ECA) by the SCEC. In 2009, the group was renamed when ECA became the name of the new statewide alliance. Members include

earthquake scientists and engineers, preparedness experts, response and recovery officials, news media representatives, community leaders, museum partners, and education specialists. The Alliance Website provides multimedia resources for learning about earthquakes, preparedness, and mitigation. (See www.earthquakecountry.org for additional information.)

- **Tsunami Preparedness Week:** Sponsored by Cal EMA, Tsunami Preparedness Week was first held in March 2008 in conjunction with the Live-Code Tsunami Test. Declarations were made by the three participating counties and by the Governor to encourage organizations to conduct tsunami education outreach efforts. The members of the National Tsunami Hazard Mitigation Program are considering making this a national event in 2011.
- **TsunamiReady Program:** TsunamiReady is a National Weather Service Program that promotes tsunami readiness through planning and outreach activities. To be recognized as TsunamiReady, communities must demonstrate their ability to receive and disseminate tsunami warning information, to map tsunami hazard zones and define evacuation routes, and to have an active educational outreach program for their populations. There are currently 11 communities, two counties, one university and one tribe that have achieved TsunamiReady recognition in the State of California.
- **U.S. Geological Survey:** USGS provides near-real-time earthquake information for Californians through its Web site. This information includes posting the location and magnitude information within the first minute after an earthquake, which is followed within five minutes by earthquake focal mechanism plots and shaking intensity maps (ShakeMap). The USGS posts 24-hour Aftershock Forecast Maps for larger events. Individuals who feel an earthquake can visit the USGS Website and report their earthquake shaking experience. This report generates a “Did you feel it?” community intensity map that shows the quake’s shaking intensities by ZIP code. (See <http://quake.wr.usgs.gov/recenteqs> for more information.)
- **WE Prepare:** This statewide disaster preparedness campaign was launched by California Volunteers in partnership with First Lady Maria Shriver. WE Prepare is a first-of-its-kind online disaster preparedness campaign that provides mothers and families with real-world disaster preparedness tips, information, resources and a fully customizable children’s book that teaches children about disaster preparedness in a non-threatening and engaging manner. One innovative approach the agency has taken to reach out to mothers, the key family decision-makers, is through its “mommy blogger” campaign. The campaign identifies mommy bloggers and meets with them in person to discuss earthquake readiness issues, including what mothers can do to protect their families. These mothers share what they have learned with other moms through their blogs. (See CaliforniaVolunteers.org for additional information.)

APPENDIX C: RESEARCH SUMMARY

THE STATE OF KNOWLEDGE IN THE SOCIAL SCIENCES ABOUT MOTIVATING PUBLIC PREPAREDNESS FOR EARTHQUAKES

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Many social science research publications report on the findings from research about what correlates with public and/or household preparedness (and mitigation) actions across a range of different hazards in different places and locations (cf. Lindell and Perry 2000), but most of these report on the results of studies conducted in California on the earthquake hazard. Even more publications exist that report on other earthquake related topics studied in California, for example, public response to actual earthquake disasters; household, organizational response by public and private organizations to earthquake predictions and forecasts, and much more. Moreover, eighteen of the original data sets from California-based earthquake research conducted between 1971 and 1994 are currently available for subsequent analysis at <http://www.sscnet.ucla.edu/issr/da/earthquake/erthqstudies2.index.htm>. The references provided in this document point to some publications, but the ones provided are by no means a complete set of references.

The Research Record

Earthquake research in California. Social science research on the correlates of public response to “actual” earthquakes in California began in 1971 (Bourque et al, 1973). While many of these studies did not focus on public preparedness and mitigation for future earthquakes, most were cross-sectional surveys that enabled researchers to generalize their findings to larger populations, and some of these did report on a few factors that they found to correlate with a few public preparedness and mitigation actions. For example, some studies examined how actual exposure to shaking, damage, and injury in a recent earthquake (cf. Dooley et al, 1992; Russell et al, 1995; Nguyen et al, 2006) impacted respondent’s estimates of the probability of a future earthquake and how subsequent expectations of damage and injury (DeMan and Simpson-Houseley 1987; Palm et al, 1990; Mileti and O’Brien 1992) influenced some preparedness and mitigation action-taking.

Earthquake information research in California. Social science research that was clearly focused on the correlates of public preparedness and mitigation action in response to “information” made

public about possible future earthquakes in California and the need to prepare for them actually began in 1976 (Mileti, Hutton, and Sorensen 1981; Turner, Nigg, and Heller-Paz 1986). The studies performed covered a range of different contexts in which the dissemination of public earthquake and earthquake preparedness information occurred. These include immediately after an earthquake (Mileti and O'Brien 1992); after the prediction/forecast of a particular earthquake (Mileti and Darlington 1997); and during more “general times” when no specific event had occurred or had been forecasted/predicted (Bourque et al, 2009). These California-based studies include the study of populations in small rural communities such as Paso Robles, Coalinga, and Taft (Mileti and Fitzpatrick 1992), large urban populations in southern California, e.g., Los Angeles (Turner, Nigg and Heller-Paz 1986), and large urban populations in northern California including different populations in the greater Bay Area (Mileti and Darlington 1997; Mileti and O'Brien 1992).

Research in other places and on other hazards. Social science research on this topic has not been limited to studies performed on Californians or on the earthquake hazard. The effect of information to encourage public preparedness and mitigation actions has also been studied in other places and other hazards. These include, earthquake prediction in the central U.S. (Farley et al, 1993), tsunamis (Haas and Trainer, 1974), floods (Waterstone 1978), and hurricanes (Ruch and Christenson 1980). Perhaps, the most elaborate study on the correlates of public response to information/public education to motivate the public to take preparedness and mitigation actions has only recently been completed. The study examined the effect of distributed educational information and many other factors on encouraging personal preparedness for terrorism as well as for “any reason”. This study was conducted on the population of the 48 contiguous states in the U.S., the populations of three different major cities in the nation including Los Angeles, and on different U.S. racial and ethnic groups (Bourque et al, 2008). A thorough reading of the results of all these studies leads to many conclusions. The most general conclusion is what motivates the public to prepare is “relatively” the same regardless of differences in the geo-political location of the people being examined, or type of hazard being investigated. Perhaps, because each study examined the same phenomenon: “what motivates people to prepare for future hazardous events”.

What We Currently Know About Motivating Public Preparedness

Where we are today, based on the conclusions from the cumulative social science research record, is that relatively strong, conclusive, and replicated science-based evidence exists based on what it takes to teach the public what they need to know, and how to motivate the public to take actions to prepare for possible future hazardous events like earthquakes. This record of social science evidence

may provide a more effective basis for increasing public knowledge and motivating public preparedness than alternative popular approaches; for example, those based on good intentions, intuition, and limited personal experience. A synthesis of what is known based on the social science research evidence accumulated to date is presented in this section. The key question is behavioral: “how do you help people to stop, listen, and get ready for future disasters that most of them think won’t really happen; or, will happen to other people and not them?” Most people think that way because they think that they are not at risk to high consequence low probability events. This perception of being safe is reinforced every day that a disaster does not occur.

Preparedness behavior motivated most by disaster experience. However, perceptions of “being safe” change to perceptions of “being at risk” immediately after a disaster. In fact, experiencing an earthquake has the strongest effect among all factors to motivate people to prepare for future earthquakes. Research on what has been popularized as “the window of opportunity” has found that the strong effect of experiencing an actual quake on motivating preparedness declines as time from the earthquake passes because perceptions of safety re-emerge and rise to pre-disaster levels typically within and approximately a two-year period after the event (Mileti and Nigg 1984).

Two strong preparedness behavior motivators in the absence of disaster. In the absence of an actual earthquake disaster, the social science research record identifies two other factors as the strongest motivators by far of household preparedness action-taking. The first is “information received” about preparedness. To be effective, information must come from multiple sources (Mileti and Fitzpatrick 1992; Bourque et al 2008), be communicated over multiple channels of communication (Mileti, Fitzpatrick, and Farhar 1992; Bourque et al, 2008), focus on what actions to take (Mileti and Darlington 1997; Bourque et al 2008); explain how those actions cut future losses (Dynes et al, 1979; Bourque et al, 2008) and be consistent (say the same thing) across the different messages received (Turner et al, 1981; Mileti, Fitzpatrick and Fahar 1992). The role of consistency across different messages in motivating public preparedness was not evidenced in a recently completed national study on terrorism readiness and readiness for other reasons (Bourque et al, 2008), but this is not reason to exclude it from the list of important factors to consider since its importance has been documented in multiple other studies (cf. Turner et al, 1981; Mileti and Fitzpatrick 1993; and more). The second factor is “information observed” (Mileti and Fitzpatrick 1992; Bourque et al, 2008). The impact of “seeing” others prepare and mitigate is generally a stronger motivator for preparedness and mitigation action-taking than passively receiving information about the need to actions.

How people convert preparedness information received into preparedness actions. The recently completed national study of motivating public preparedness (Bourque et al, 2008) provided two major contributions to social science knowledge. First, the study was based on all the households in the country, and it confirmed the findings of previous studies that were performed on small populations in unique parts of the country. This lends increased validity to existing conclusions. Second, it clearly identified the general social process that people go through to convert received preparedness information into actual household preparedness actions. This process can be described as follows. **Information received** and **information seen** are the two key factors that motivate the public to prepare. These two factors have “direct” effects on increasing household preparedness and mitigation. The more people hear, read, and see, the more they do to get ready. These factors also “indirectly” affect household preparedness. They do this by increasing people’s **knowledge** and their perceived effectiveness or **efficacy** of recommended actions, and by increasing discussions (sometimes called **milling**) with others about earthquake preparedness and mitigation. These factors, knowledge, perceived effectiveness, and milling, in turn, increase household preparedness and mitigation.

Conclusions On The Importance of Providing Information

These conclusions are very good news. In the absence of an actual disaster (the strongest way to get people’s attention and motivate preparedness actions), the two major determinants of household preparedness are both “pliable.” Policies and programs can be developed that increase information dissemination in ways that increase earthquake preparedness and mitigation. Moreover, the information to action-taking relationship is linear: the more information disseminated to households, the more they prepare and mitigate; the less information, the less preparedness and mitigation.

In comparison to information received and seen, most other factors do not matter much (Bourque 2008). Other factors either are not related to household preparedness and mitigation, or their effects either disappear or remain, but are reduced to such small levels when the information factors just described are included and “controlled” in multivariate statistical models. These other factors include the increased probability of a future event (which is certainly useful to know about for other reasons) and demographic characteristics (which can constrain what people can afford, but have little effect on readiness motivation).

REFERENCES

- Bourque, L.B., Kano, M., and Wood, M.M. 2009. The State of Public Readiness in California and How to Increase It: Final Report. Submitted to the Alfred E. Alquist Seismic Safety Commission and the California Emergency Management Agency. Los Angeles, CA: University of California (Adopted by the Seismic Safety Commission July 2009; currently under review by Cal-EMA).
- Bourque, L.B., and Milet, D.S. 2008. "Public Readiness for Terrorism in America: A Briefing on the Results of a National Survey". National Press Club Briefing, Washington, D.C.: October 24.
- Bourque, L. B., Reeder, L.G., Charlin, A., Raven, B.H., and Walton, D.M. 1973. The Unpredictable Disaster in a Metropolis: Public Response to the Los Angeles Earthquake of February 1971. Los Angeles, CA: Civil Defense Preparedness Agency, UCLA Survey Research Center.
- DeMan, A., and Simpson-Housely, P. 1987. "Factors in Perception of Earthquake Hazard," Perception and Motor Skills 64: 185-820.
- Dooley, D., Catalano, R., Mishra, S., and Serner, S. 1992. Earthquake Preparedness: Predictors in a Community Survey," Journal of Applied Social Psychology 22(6): 451-470.
- Dynes, R.R., Purcell, A.H., Wenger, D.E., Stern, P.E., Stallings, R.A., and Johnson, Q.T. 1979. Report to the Emergency Preparedness and Response Task Force from Staff Report to the President's Commission on the Accident at Three Mile Island. Washington, D.C.: President's Commission on the Accident at Three Mile Island.
- Farley, J.E., Barlow, H.D., Finkelstein, M.S., and Riley, L. 1993. "Earthquake Hysteria, Before and After: A Survey and Follow-up on Public Response to the Browning Forecast," International Journal of Mass Emergencies and Disasters 11: 305-322.
- Haas, J.E., and Trainer, P. 1974. "Effectiveness of the Tsunami Warning System in Selected Coastal Towns in Alaska," Proceedings of the Fifth World Conference on Earthquake Engineering. Rome, Italy.
- Lindell, M.K., and Perry, R.W. 2000. "Household Adjustment to Earthquake Hazard: A Review of the Research," Environment and Behavior 32(4): 461-501.

- Mileti, D.S., and Darlington, J. 1995. "Societal Response to Revised Earthquake Probabilities in the San Francisco Bay Area," International Journal of Mass Emergencies and Disasters 13(2): 119-145.
- Mileti, D.S., and Darlington, J. 1997. "The Role of Searching Behavior in Response to Earthquake Risk Information," Social Problems 44(1): 89-103.
- Mileti, D.S., and Fitzpatrick, C. 1992. "The Causal Sequence of Risk Communication in the Parkfield Earthquake Prediction Experiment," Risk Analysis 12(3): 393-400.
- Mileti, D.S., and Fitzpatrick, C. 1993. The Great Earthquake Experiment: Risk Communication and Public Action. Boulder, CO: Westview Press.
- Mileti, D.S., Fitzpatrick, C., and Farhar, B.C. 1992. "Fostering Public Preparations for Natural Hazards: Lessons from the Parkfield Earthquake Prediction," Environment 34(3): 16-20 and 36-39.
- Mileti, D.S., Hutton, J., Sorensen, J.H. 1981. Earthquake Prediction Response and Options for Public Policy. Boulder, CO: Institute of Behavioral Science.
- Mileti, D.S. and Nigg, J.M. 1984. "Earthquakes and Human Behavior," Earthquake Spectra 1(1): 89-106.
- Mileti, D.S., and O'Brien, P.W. 1992. "Warnings During Disaster: Normalizing Communicated Risk," Social Problems 39(1): 40-57. Reprinted in U.S. Geological Survey (Ed.). 1993. The Loma Prieta Earthquake of October 17, 1989. Washington, D.C.: U.S. Government Printing Office.
- Nguyen, L.H., Shen, H., Ershoff, D., Afifi, A.A. and Bourque, L.B. 2006. "Exploring the Causal Relationship between Exposure to the Northridge Earthquake and Pre- and Post-earthquake Preparedness Activities." Earthquake Spectra 22: 659-587.
- O'Brien, P., and Mileti, D.S. 1992. "Citizen Participation in Emergency Response Following the Loma Prieta Earthquake," International Journal of Mass Emergencies and Disasters 10(1):

- 71-89. Reprinted in U.S. Geological Survey (Ed.) 1993. The Loma Prieta Earthquake of October 17, 1989. Washington, D.C.: U.S. Government Printing Office.
- Palm, R., Hodgson, M. Blanchard, R.D., and Lyons, D. 1990 Earthquake Insurance in California. Boulder, CO: Westview Press.
- Ruch, C., and Christensen, L. 1980. Hurricane Message Enhancement. College Station, Texas: Texas Sea Grant College Program, Texas A & M University.
- Russell, L.A., Goltz, J.D., and Bourque, L.B. 1995. "Preparedness and Hazard Mitigation Actions before and After Two Earthquakes," Environment and Behavior 27(6): 744-770.
- Turner, R.J., Paz, D.H., and Young, B. 1981. Community Response to Earthquake Threat in Southern California. Parts 4-6 and 10. Los Angeles, CA: University of California.
- Turner, R.J., Nigg, J.M., and Paz, D.H. 1986. Waiting for Disaster: Earthquake Watch in California. Los Angeles, CA: University of California Press
- Waterstone, M. 1978. "Hazard Mitigation Behavior of Flood Plain Residents," Natural Hazards Working Paper No. 35. Boulder, CO: Natural Hazards Center, Institute of Behavioral Science, University of Colorado.

APPENDIX D: CROSSWALK

Earthquake Communications & Outreach		State Emergency Plan	California Community Readiness Plan for Disaster	Hazard Mitigation Plan
Phase I Goal 1	Further develop awareness of, engagement in, and support for the Plan and alliance among internal audiences	Page 37; 9.1 Preparedness Planning - SEMS and NIMS Elements	Page 6; Goal 1, Objectives 1.1 through 1.4	Page 63; 3.1.4 Integrated Mitigation Policy; Objectives 1-3
Phase I Goal 2	Cultivate collaboration among alliance members	Page 39; 9.4 Prevention and Protection Programs	Page 6; Goal 2, Objectives 2.1 through 2.5	Page 63; 3.1.4 Integrated Mitigation Policy; Objectives 4, 7, 10
Phase II Goal 1	Continue to cultivate collaboration among alliance members	Page 40; 9.5 Communications and Information Management	Page 7; Goal 3, Objectives 3.1 and 3.2	Page 63; 3.1.4 Integrated Mitigation Policy- Paragraph 1-3
Phase II Goal 2	Build a community of earthquake/ tsunami-ready Californians who, by demonstrating their readiness activities within their social circles, can help foster earthquake/tsunami readiness as a social movement	Page 38; 9.3 Preparedness Exercises	Page 6; Goal 1, Objective 1.4	

APPENDIX E: ACRONYMS AND ABBREVIATIONS

Cal EMA	California Emergency Management Agency
CEEP	California Earthquake Education Project
CERT	Community Emergency Response Team
CRAG	California Readiness Advisory Group
ECA	The Earthquake Country Alliance
FEMA	Federal Emergency Management Agency
HEEC	Humboldt Earthquake Education Center
NOAA	National Oceanic and Atmospheric Administration
OES	Governor's Office of Emergency Services (now Cal EMA)
RCTWG	Redwood Coast Tsunami Work Group
SCEC	Southern California Earthquake Center
UCERF	Uniform California Earthquake Rupture Forecast
USGS	United States Geological Survey